

WHAT IS CLAIMED IS:

1. An induction heat fixing device comprising:

a heat roller;

5 a magnetic field generator; and

a pressure roller that rotates jointly with the heat roller while
kept in contact with the heat roller;

wherein the magnetic field generator includes:

a cylindrical bobbin with an electric wire wound around to form

10 a coil on the outer surface and flanges formed at both ends of the
main bobbin.

2. The device according to claim 1, wherein the flanges of the

bobbin are arranged at positions different each other in the axial

15 direction of the main bobbin.

3. The device according to claim 1, wherein the bobbin has

grooves formed in a radial pattern at both sides to communicate the
inner and outer surfaces, and the flanges are arranged at both sides

20 of the grooves.

4. The device according to claim 1 further comprising:

electric wire guides formed on the inner surface of the bobbin

corresponding to the grooves with signs indicating a type of electric

25 wire shown on the electric wire guides and the bobbin.

5. The device according to claim 4, wherein the signs includes
a winding direction of the electric wire.

6. The device according to claim 5, wherein the sign indicating
5 the winding direction of the electric wire is provided on the flange
surfaces provided at both sides of the grooves.

7. The device according to claim 1, wherein the surface of the
bobbin has a coil guide comprising spiral grooves, on which the
10 electric wire is fitted.

8. An induction heat fixing device comprising:
a heat roller;
plural coil unit groups to generate eddy current in the heat
15 roller to heat the heat roller; and
a pressure roller that rotates jointly with the heat roller while
kept in contact with heat roller,
wherein the coil unit groups includes:
a holder that is arranged in the heat roller;
20 coil supporting members that are inserted into the holder;
coils comprising winding wires wound around the outer surface
of the coil supporting members in plural turns; and
plural coil units provided on the inner surface of the coil
supporting members in parallel with the inserting direction and
25 have tubular guides to pass the winding wire pulled out of the coil
and lead in the end direction of the holder and arranged adjoining to

the holder.

9. The device according to claim 8, wherein the holder has a spatial channel between the coil supporting member to further lead
5 the winding wire once passed through the tubular guide to the holder end.

10. The device according to claim 8, wherein the tubular guides are arranged in the inner surface at the line symmetrical
10 positions for the coil supporting members.

11. The device according to claim 8, wherein the tubular guides are so limited that their ends are positioned at side inner than the side of the coil supporting members.

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12. The device according to claim 8 further comprising:
a cap detachably fixed to at least one end of the holder.

13. An induction heat fixing device comprising:
20 a heat roller;
plural coil unit groups to generate eddy current in the heat roller to heat the heat roller; and
a pressure roller that rotates jointly with the heat roller while kept in contact with the heat roller,
25 wherein the coil unit group includes:
a holder arranged in the heat roller;

a bobbin that is inserted into the holder;
a coil with winding an electric wire around the outer surface of
the bobbin in plural turns; and
a coil unit having an air space portion, in which the electric
5 wire is passed, formed in parallel with an insertion direction of the
bobbin when the bobbin is inserted into the holder

14. The device according to claim 13, wherein the coil units
are inserted into the holder and arranged adjacently in the direction
10 to make potential difference of the adjacent winding wires to the
same level and excited by different resonance frequencies and
generate eddy current in the heat roller.

15. The device according to claim 14, wherein the potentials of
15 the electric wires passed through the air space portion are equal
respectively.

16. The device according to claim 13, wherein plural winding
wire guides, in which the electric wire is passed, are arranged on
20 the inner surface of the bobbin.

17. The device according to claim 16, wherein the winding
wire guides are so limited that their ends are positioned at the
positions inner than the side of the bobbin.

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18. The device according to claim 16, wherein the positions of

the winding wire guides are so limited that an air gap portion in a size more than the winding wire diameter is maintained between the coil unit and the winding wire guides.

5 19. The device according to claim 13, wherein the plural coil unit groups are composed of plural coil units inserted coaxially into the holder.

10 20. The device according to claim 13, wherein the number of turns of the winding electric wires on the coil units differ for every coil unit group.